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No. 99-1996

In The

Supreme Court of the United States

J.E.M. AG SUPPLY, INC. (doing business as Farm Advantage, Inc.), FARM ADVANTAGE, INC., LARRY BENZ, MERLE PRUETT (doing business as Siouxland Seeds, Inc.), KEVIN WOLFSWUNKEL, TIM KAMSTRA, and TOM EISCHEN SEED & CHEMICALS,

Petitioners,

v.

PIONEER HI-BRED INTERNATIONAL, INC.

Respondent.

On Writ of Certiorari to the
United States Court of Appeals
For the Federal Circuit

BRIEF *AMICUS CURIAE* OF CARGILL, INCORPORATED IN SUPPORT OF THE RESPONDENT

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QUESTION PRESENTED

Are utility patents issued under 35 U.S.C. § 101 granting the right to exclude others from sexually reproducing plants or plant varieties, or from selling or using plants or plant varieties reproduced by means of sexual reproduction (by seed), invalid because the Plant Variety Protection Act of 1970, 7 U.S.C. § 2321, *et seq.*, and the Plant Patent Act of 1930, 35 U.S.C. §§ 161-164, are the exclusive means of obtaining a federal statutory right to exclude others from reproducing, selling, or using plants and plant varieties?

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Paul E. Schaafsma, *An Economic Overview of Patents,* J. Pat. & Trademark Off. Soc'y 241 (1997) 19

Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations,* Book V, ch. 1 (Cannan ed. 1776) 19

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U.S. Pat. 6,159,715 1

U.S. Pat. 6,201,145 1

INTEREST OF THE *AMICUS CURIAE*

The *Amicus Curiae* ("Cargill") is a leading international marketer, processor, and distributor of agricultural, food, financial, and industrial products and services.[1] Cargill's central interest in this case relates to its role as a processor of agricultural goods into more highly valued food and industrial products, such as corn syrup, citric acid, vegetable oils, sodium citrate, corn starch, and wheat flour. Cargill also invests heavily in the development of functionally and agronomically improved canola varieties through its InterMountain Canola division, which holds a number of patents on canola end-products and their processing.[2] Additionally, Cargill is a co-owner of a joint venture (Renessen LLC) directed to the development and commercialization of seed products for the animal feed and processing markets.

Cargill's core businesses have been intimately entwined with the Nation's food supply for over a

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[1] The parties have consented to the filing of this brief, and letters of consent are being filed herewith. In accordance with Supreme Court Rule 37.6, the *Amicus Curiae* represents that no counsel for a party authored this brief in whole or in part and no person or entity, other than the *Amicus Curiae* or its counsel made a monetary contribution to the preparation or submission of this brief.

[2] *See, e.g.*, U.S. Pat. 6,201,145 ("Non-hydrogenated canola oil for food applications"); U.S. Pat. 6,159,715 ("Method for processing oilseed material"); U.S. Pat. 5,668,299 ("Seeds, plants and oils with altered fatty acid profiles") (available at http://www.uspto.gov/patft/index.html). Cargill recently sold its seed business, which held a number of patents on corn and sunflowers, and Cargill no longer maintains an interest in that business or those patents.

Congress chose to meet the constitutional mandate that patents "promote the Progress of Science and Useful Arts," not by enumerating a specific, inflexible list of patentable subject matter, but instead by providing protection to anything made by man, and requiring that each invention be new (sections 101 and 102), useful (section 101), and nonobvious (section 103). *See Graham v. John Deere Co.*, 383 U.S. 1, 12-13 (1966); *see also Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 483 (1974). In addition, to ensure that the public need not suffer the embarrassment of a monopoly without a *quid pro quo*, Congress required, in section 112, that a patentee provide a full and enabling disclosure of the invention –a requirement that ensures that the patentee may not retain the invention as a trade secret. *See Universal Oil Prods. Co. v. Globe Oil & Refining Co.*, 322 U.S. 471, 484 (1944); *see also Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 150-51 (1989).[4]

Section 101's plain language—particularly the terms "manufacture" and "composition of matter"—"fairly embraces" sexually reproducing plants just as it did bacteria. *See Chakrabarty*, 477 U.S. at 318. Petitioners can find no text on which to hang their argument that section 101 excludes sexually reproducing plants, though they are a "new and useful composition of matter" made by man. Just as new technologies in the past have emerged and then developed to the point at which they can meet the requirements for patentability, the Patent Act admits of no special reason that sexually reproducing plants cannot do the same. Where the language of the statute is clear, it is given its plain meaning, and further inquiry is unnecessary. *E.g., Ingalls Shipbuilding, Inc. v. Director, OWCP*, 519 U.S. 248, 261 (1997).

[4] Petitioners have argued below that Pioneer's patents are also invalid for failing to meet the "enablement" requirement of section 112, and will undoubtedly pursue that argument if this Court grants an affirmance. 35 U.S.C. § 112.

II. The Patent Act and Plant-Specific Acts Do Not Together Exclude Sexually Reproducing Plants From Section 101.

There is no legitimate way to find an implicit exclusion of sexually reproducing plants from section 101 based on the whole of Congress' intellectual property legislation, particularly given the broad language of section 101. Such a limitation may be found only if one ignores the important distinction between what may fairly be gleaned from the legislative history—Congress' *recognition* that sexually reproducing plants could not at the time be patented for practical reasons—and what may not: Congress' positive *intention* that sexually reproducing plants should not be patented. Indeed, throughout its legislating in this arena, Congress has consistently expressed its intent that sexually reproducing plants be provided protection equal to other inventions—to the extent practicably possible—and has sought to provide such protection.

A. The Plant-Specific Acts Do Not Limit Utility Patent Protection For Sexually Reproducing Plants

None of the relevant statutes shows a positive intent by Congress to prevent utility patenting of

century. As a result, Cargill has a deep-rooted interest in ensuring that American farmers can produce the most advanced agri-products possible, and that their ability to produce crops is not threatened by any unforeseen crisis. Cargill benefits when farmers have access to seeds that provide disease and insect resistance, drought and cold tolerance, high yields, and enhanced functional grain properties such as high oil content. Thus, Cargill's interest is the same as that expressed by Congress in passing the Plant Patent Act in 1930:

> No one will question the fact that new varieties of food, medicinal, and other economic plants may be an important factor in maintaining public health and in promoting public safety and national defense. Thus the food supply of the Nation, both from the viewpoint of the producer and the user, is of vital importance, and insurance against failure in that supply is necessary to public safety and national prosperity. Plant breeding and discovery, while in its infancy, is fundamentally connected with the Nation's food supply, and will, if encouraged and developed, be of incalculable value in maintaining public health and prosperity, and in promoting public safety and the national defense.

S. Rep. No. 71-315, at 2-3 (1930).

It takes many years of complex and expensive research to develop a new plant variety. As a result, it is important even today, in a time of relative plenty, to ensure that all reasonable efforts are made to improve the plant varieties available to our farmers. It

is with this interest in mind that Congress has allowed the patenting of sexually reproducing plants, as properly recognized by the United States Court of Appeals for the Federal Circuit. The appellate court's ruling is in accord with the language of the Patent Act, and is entirely consistent with the other extrinsic evidence of Congress' intent, including other statutes and all relevant legislative history.

SUMMARY OF THE ARGUMENT

Congress drafted the statutory language relevant to this appeal, section 101 of Title 35, to be open-ended so that technologies not previously believed patentable could develop over time until they satisfied the various statutory requirements for patentability. Respondents have not challenged the premise that the clear and plain language of section 101 covers sexually reproducing plants.

The supposed penumbra created by the two plant-specific acts (the PPA and the PVPA) does not prevent the utility patenting of sexually reproducing plants under section 101. Those acts show at most a *belief* by Congress that, for practical reasons, plants could not successfully be patented at the time. But they do not show an affirmative congressional *intention* that plants should not be patented. At each turn, Congress' words and actions indicate an intention to provide coverage for plants equivalent to that available for other inventions—to the extent practicably possible at the time. Advancements that have occurred since the congressional utterances on which Petitioners rely now provide the practical, technical basis on which utility patents may be granted for sexually reproducing plants.

Any ruling that limits the utility patenting of plants should be carefully circumscribed. In addition, any narrowing of section 101 should apply only prospectively, given the risks that researchers have taken over the past two decades in a reasonable belief that sexually reproducing plants could be patented.

ARGUMENT

I. The Patent Act's Plain Language Encompasses Sexually Reproducing Plants

The starting point for the construction of any statute is the language of the statute itself, which is to be given its "ordinary, contemporary, common meaning." *Diamond v. Diehr*, 450 U.S. 175, 182 (1981) (*quoting Perrin v. United States*, 444 U.S. 37, 42 (1979)); *Hallstrom v. Tillamook County*, 493 U.S. 20, 25 (1989). The language of the statutory provision at issue here, section 101 of Title 35, is plain and simple:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions of this title.

35 U.S.C. § 101. If a new and useful invention falls within one of the four listed classes of subject matter and meets the other requirements for patentability in sections 102, 103, and 112, it is patentable.

In *Diamond v. Chakrabarty*, this Court recognized section 101's great breadth when it considered the patentability of a man-made bacterium. It was irrelevant that Congress could not have considered

man-made bacteria to be patentable when passing the Patent Act in 1952 because "genetic technology was unforeseen" at that time (447 U.S. 303, 314 (1980)):

> A rule that unanticipated inventions are without protection would conflict with the core concept of the patent law that anticipation undermines patentability. *See Graham v. John Deere Co.*, 383 U.S. at 12-17. Mr. Justice Douglas reminded that the inventions most benefiting mankind are those that "push back the frontiers of chemistry, physics, and the like." *Great A. & P Tea Co. v. Supermarket Corp.*, 340 U.S. 147, 154 (1950) (concurring opinion). Congress employed broad general language in drafting § 101 precisely because such inventions are often unforeseeable.

447 U.S. at 316. The Court specifically cautioned that it is improper to "read into the patent laws limitations and conditions which the legislature has not expressed." *Id.* at 308 (*quoting United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 199 (1933)).[3]

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[3] Only very limited groups of subject matter have been excluded from coverage under section 101, either because they were not "made by man" (*e.g.*, laws of nature, natural phenomena, and abstract ideas), *see Diehr*, 450 U.S. at 185, or because they were a mere disembodied concept that is a basic tool of scientific and technological work, and thus treated as if it were a "familiar part of the prior art" and not "new" (*e.g.*, algorithms with no application), *e.g.*, *Parker v. Flook*, 437 U.S. 584, 591-92 (1978). These exceptions are not applicable to the patented plants in this case, which, we must assume, *see id.* at 588, were newly developed at the hands of skilled researchers.

sexually reproducing plants. What the statutes instead show is a repeated congressional refusal to relax the technical requirements for a utility patent in section 112. Each time Congress was faced with subject matter that it believed warranted protection yet was incapable of meeting section 112, it provided specific protection elsewhere, but it never carved out a special exception for plants from section 101. As a result, Congress by its actions left open the possibility that sexually reproducing plants could be covered by utility patents if, and when, they could be adequately described and claimed (per section 112) in a patent application.

For its part, the Plant Patent Act provides a positive right to seek a patent on an asexually reproducing variety, but it says nothing positive or negative about the ability to obtain a patent claim relating to sexually reproducing plants. Rather, it simply provides (outside the main Patent Act) that the requirements of section 112 shall not apply to plant patents. *See* 35 U.S.C. § 162. That Congress chose to allow the patenting of asexually reproducing plants without satisfying the disclosure requirements of section 112 in no way implies that it intended to exclude plant patents under section 101 when disclosure *could* be achieved in conformity with section 112. It would have been easy enough for Congress to say in the PPA that the PPA provided the exclusive way to patent plants; it did not do so.

Likewise, the PVPA provides a positive right to obtain narrow protection for a novel "variety," but it too says nothing for or against the patenting of sexually reproducing plants. Its narrow coverage of only varieties further belies any claim that the Act was

meant to be fully comprehensive. *See* 7 U.S.C. § 2401(a)(9) (defining "variety"). Both acts left intact the broad language in section 101, which does not carve out special exceptions for any technology. Thus, by their language and effect, the PPA and PVPA embrace the utility patenting of sexually reproducing plants.

Congress' actions since it passed each statute indicate that it is comfortable with the current statutory scheme as interpreted by the expert agency with responsibility for patents, the Patent Office. Since the 1985 judicial announcement in *Ex Parte Hibberd*, 227 U.S.P.Q. 443 (PTO Bd. Pat. App. & Int. 1985) that sexually reproducing plants could receive utility patents, Congress has returned to the Patent Act and the PVPA for both major and minor revisions.[5] Yet it has not acted to plug the supposed section 101 loophole through which the Patent Office has been driving utility patents. *See Zemel v. Rusts*, 381 U.S. 1, 11-12 (1965) (Congress ratified an agency interpretation when upon amending the statute, it left "completely untouched" the provision in issue); *Bob Jones Univ. v. United States*, 461 U.S. 574, 599-601 (1983). And neither the Patent Office nor the De-

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[5] *See, e.g.*, Intellectual Property and Communications Omnibus Reform Act, Pub. L. No. 106-113, §§ 4001-4808, 113 Stat. 1501A, 1501A-552 to 1501A-591 (1999); Biotechnology Process Patent Law Revision, Pub. L. No. 104-41, 109 Stat. 351 (1995); Plant Variety Protection Act Amendments of 1994, Pub. L. No. 103-349, 108 Stat. 3136 (1994); Patent and Plant Variety Protection Remedy Clarification Act, Pub. L. No. 102-560, 106 Stat. 4230 (1992); Omnibus Trade and Competitiveness Act of 1988, Pub. L. No. 100-418, §§ 9001-9202, 102 Stat. 1107, 1563-1570 (1988); Patent Law Amendments Act of 1984, Pub. L. No. 98-622, 98 Stat. 3384 (1984).

partment of Agriculture has come to Congress complaining of conflicts between the acts. That is because the acts are entirely consistent with each other.

Congress has also recently shown, outside the area of plants, an ability to act in response to decisions by the Patent Office and the Federal Circuit, and has shown its intent that section 101 should be free of artificial limitations. In 1998, the Federal Circuit held, in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999), that there was no silent limitation in section 101 on patenting "methods of doing business." Congress reacted, not by telling the court that there is such a limitation, but by implicitly approving of the court's ruling through the creation of a new defense that applies only against patents on "method[s] of doing and conducting business." First Inventor Defense Act of 1999, Pub. L. No. 106-113, at § 4302, 113 Stat. 1501A, 1501A-555 (1999). In a nutshell, Congress has seen that each Act provides its own type of protection based on different requirements, and has found no problem with that statutory scheme.

B. The Plant-Specific Acts Do Not Conflict With the Patent Act; They Complement It

This Court's precedent does not allow one act of Congress implicitly to erase another simply because they overlap; rather, there must be a "positive repugnancy" between the acts, or the acts must be incapable of mutual coexistence. *Radzanower v. Touche Ross & Co.*, 426 U.S. 148, 155 (1976). Where there is any way the acts can co-exist, courts have a duty to

regard each as effective. *See Morton v. Mancari*, 417 U.S. 535, 551 (1974).

The statutory scheme established by the three acts makes complete sense. All three provide innovators with a positive right to exclude others from practicing the relevant innovation, and thus are consistent with each other. The plant-specific acts complement the Patent Act by providing limited protection where the "rigorous statutory tests" of the Patent Act cannot be met. *Kewanee Oil*, 416 U.S. at 477. For example, a PVPA certificate may be obtained merely by showing that a variety is novel, but a utility patent requires a much higher showing of nonobviousness. *Compare* 7 U.S.C. § 2402 *with* 35 U.S.C. § 103. In addition, a prospective patentee must clear the several hurdles of 35 U.S.C. § 112, such as providing a written description of the invention that would enable someone to make and use it, and drafting claims that particularly point out and distinctly claim the invention. In contrast, aspirants for a PVPA certificate or a plant patent need not make such a detailed and enabling disclosure. *See* 7 U.S.C. § 2422; 35 U.S.C. § 162; 7 C.F.R. § 97.6.

This statutory scheme works without conflict in practice. A developer of a new sexually reproducing plant may pursue protection under the PVPA if she is not confident that she can clear the hurdles for a utility patent. If she is confident that she can show that her discovery would not have been obvious, *and* can describe and claim it adequately, she may pursue a utility patent. She may also pursue both. Her pursuit of a PVPA certificate does not conflict with her pursuit of a patent, and the Patent Office's grant of one right does not derogate from the Department

of Agriculture's grant of another. This is how the Patent Act and the PVPA have co-existed perfectly for many years. Petitioners cannot square their argument that the acts are inimically opposed with this peaceful co-existence.

Petitioners see a conflict in the fact that holders of utility patents, who have had to clear the higher hurdles of sections 103 and 112, are not subjected to the crop exemption and the research exemption of the PVPA. But Petitioners ignore the careful wording Congress chose for both exemptions. In particular, the crop exemption states that the saving of seed "shall not infringe any right hereunder [*i.e.*, the PVPA]," 7 U.S.C. § 2543, while the research exemption states that research activities "shall not constitute an infringement of the protection provided under this chapter [*i.e.*, the PVPA]," *id.* § 2544. Thus, Congress did not provide an absolute right to save seed or to conduct research; it merely stated that such activities would not infringe a PVPA certificate. Congress' careful wording thus anticipates that such activities could infringe other rights, such as utility patent rights.

In contending that section 101 must be read narrowly in light of the PVPA, Petitioners rely heavily on *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000). But that case merely stands for the proposition that a statute should not be read in a way that makes it *repugnant* to other statutes. In *Brown & Williamson*, the FDA, if it were to regulate tobacco at all, would have had to ban tobacco completely. Congress demonstrated its intent that tobacco not be banned, however, by passing a number of tobacco regulating statutes after it had passed the

Food, Drug, and Cosmetic Act. The Court reasoned that, despite a broad grant of jurisdiction, the FDA could not have jurisdiction over tobacco because its tobacco-banning-only authority was repugnant to subsequent tobacco regulating statutes. *See* 529 U.S. at 137-39. *Brown & Williamson* does not stand, as Petitioners would have it, for the broad proposition that a specific statute will prevent a general statute from operating even where they are *consistent* with each other. There is nothing repugnant about the PVPA providing a specific type of protection for plants, and the Patent Act providing a different type of protection; the Acts are fully consistent.

The intellectual property decisions on which petitioners rely also deal only with proposed statutory interpretations that would make co-existence of two statutes impossible. Those cases simply state the natural rule that a statute designed to protect functional items (*e.g.*, the Patent Act) cannot protect the same things as statutes designed to protect nonfunctional items (*e.g.*, the Copyright Act and the Trademark Act).

For example, in *Traffix Devices, Inc. v. Marketing Displays, Inc.*, 121 S.Ct. 1255 (2001), the Court held that a feature is very likely functional (and therefore incapable of contributing to trade dress) if it is recited in a utility patent claim. An attempt to cover the same item with functional protection (utility patent) and non-functional protection (design patent) was also the subject of *Ropat Corp. v. McGraw-Edison Co.*, 535 F.2d 378 (7th Cir. 1976), also cited by Petitioners.

Where both regimes provide non-functional protection, or both provide functional protection, dual

coverage of the same item is allowed. For example, an image of Mickey Mouse may be copyrighted as a pictorial work, *see* 17 U.S.C. § 102, and may also serve as a trademark that indicates that The Walt Disney Company is the source of a product or service, *see* 15 U.S.C. §§ 1125, 1127. In considering whether copyright *and* design patent (covering "ornamental" features) protection may be sought for the same design, the Court of Customs and Patent Appeals (predecessor to the Federal Circuit) stated the rationale for overlapping protection:

> The Congress, through its legislation under the authority of the Constitution, has interpreted the Constitution as authorizing an area of overlap where a certain type of creation may be the subject matter of a copyright and the subject matter of a design patent. * * * Congress has not required an author-inventor to elect between the two modes which it has provided for securing exclusive rights on the type of subject matter here involved. If anything, the concurrent availability of both modes of securing exclusive rights aids in achieving the stated purpose of the constitutional provision.

In re Yardley, 493 F.2d 1389, 1395-96 (C.C.P.A. 1974).

This Court's decision in *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470 (1974), shows that two intellectual property schemes can protect the same *functional* item. In *Kewanee*, the Court ruled that items eligible for patent protection may also be protected by state trade secret law, and that existence of a different type of protection for the same item was

consistent with the patent policy of encouraging invention. *See id.* at 484. The main tension between trade secrets and patents—secrecy vs. disclosure—did not constitute a barrier to trade secret protection, and is not a factor here, since the Patent Act, the PPA, and the PVPA all encourage disclosure. Petitioners' invitation to strike dual coverage on a single item is unsupported by case law or logic. Rather, the Patent Act and the PVPA are paradigmatic of intellectual property regimes that can be layered without inconsistency.

C. Sexually Reproducing Plants Fit Within the Patent Regime Just Like Any Other Modern Technology

By imposing the requirements that patentable inventions be new, useful, and nonobvious, and by requiring full, enabling disclosures of inventions, Congress has expressed the constitutional requirement that patent protection be in furtherance of the useful arts. *See Graham*, 383 U.S. at 1. This Court has spoken repeatedly of the public benefits of a system that rewards full disclosure with a limited term of exclusivity:

> [The inventor] may keep his invention secret and reap its fruits indefinitely. In consideration of its disclosure and the consequent benefit to the community, the patent is granted. An exclusive enjoyment is guaranteed him for seventeen years, but upon expiration of that period, the knowledge of the invention inures to the people, who are thus enabled without restriction to practice it and profit by its use.

Dubilier Condenser Corp., 289 U.S. at 186-87; *see Bonito Boats*, 489 U.S. at 150-51; *see also Universal Oil Prods.*, 322 U.S. at 484; *The Incandescent Lamp Patent*, 159 U.S. 465, 475 (1895).

The patents in this case fit that congressional scheme in the same manner as do other technologies. Unlike when the PPA and PVPA were enacted, plants may now be described and claimed in a manner that satisfies section 112, so that the public may obtain the full benefit of the invention. The main obstacle to patenting plants—providing a disclosure of the invention that will "enable" others to make and use the invention—was solved through the use of "deposits." In the biological sciences, where an invention may not always be produced from a simple description on paper, it is now common to provide the invention or starting materials for the invention (*e.g.*, cells cultures or a packet of seeds) to a public depository that will make the deposited materials available to all comers. *See In re Wands*, 858 F.2d 731 (Fed. Cir. 1988). The Patent Office even has regulations governing such deposits. *See* 37 C.F.R. §§ 1.801-1.809. Deposits were first judicially approved in 1970, in the context of microorganisms. *See In re Argoudelis*, 434 F.2d 1390 (C.C.P.A. 1970).

The ability to meet the section 112 requirement that utility patent claims be "definite" enough to apprise the public of their scope has also improved dramatically for plants. *See General Electric Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938). Fewer than 50 years ago, Watson and Crick first conceived of their visual model of DNA. Thus, when two of the three acts relevant to this case were passed, Congress could not have even comprehended that the

that the features of a plant could be described by a discrete, objective code within the plant itself. Modern analytical techniques—especially DNA analysis techniques developed since the PVPA was passed—allow scientists to discern qualities of a deposited seed that cannot be seen by viewing a plant grown from the seed. As a result, patentees can better describe and claim their inventions, and others can better determine whether they infringe a patent. Enormous strides have been made in the past two decades, and our patent laws are fully capable of accommodating these advances, as they have for two centuries,

As with other modern, complex technologies, development of new and better plants takes many years and an enormous investment. Each species has its own unique characteristics and challenges. Relevant to this case, a typical corn breeder first selects two distinct plants to "cross-pollinate" so as to make a new plant. She then begins an iterative process of crossing the offspring with each other ("sib pollinating") or with themselves ("self pollinating"), and selecting only offspring that appear to have favorable traits (such as drought tolerance or high yield). The genetics of the original offspring are mixed up, so that even self-pollination creates a range of offspring rather than clones. However, with further rounds of self-pollination and selection (usually a half-dozen seasons or more), each group of selected plants ultimately reaches a stability whereby each successive self-pollinated generation is essentially the same as the last. At that point, the breeder has developed a new variety. Because there is no formula for selecting the proper plants to cross and to self-pollinate, the breeding process often involves as much "art" as

it does science. *See* Arnel Roy Hallauer, *Maize, in* 2 *Principles of Cultivar Development* 263 (Walter R. Fehr, ed., 1987).

Development of hybrid corn seeds—the only corn seeds that matter to a farmer—is even more difficult. A hybrid seed is produced by crossing two (or more) inbred varieties that are very unlike each other. While the inbred plants are generally small and scraggly, the plant that grows from the hybrid seed can be large and strong—and nobody fully understands how this occurs. Indeed, some of the ugliest inbreds produce some of the finest hybrids. Thus, a developer of hybrids not only must determine what plants to cross and select to produce an inbred line, she must also determine what inbreds best cross to create a good hybrid, and she must develop inbred lines that often hide their strengths from the human eye. *See generally* Walter R. Fehr, *General Principles, in* 2 *Principles of Cultivar Development* 9-10 (Walter R. Fehr, ed., 1987).

Modern breeders employ costly advanced technologies (such as molecular analysis and gas chromatography) to assist in their creation of superior hybrids. For corn, the hybrid seed is what the farmer purchases, and therefore is the product that generates the revenue that justifies massive investment in further research. Because farmers demand ever more from new plants, each breeding improvement requires even greater investment and produces greater investment risk for the breeder.

At the same time, plants are highly susceptible of copying. Once a new plant line has been stabilized, further self-pollination can create thousands of replicas of the plant. Thus, the plant breeder, after incurring the high cost of years of development, is faced with the possibility that others will simply free ride on her research. Without some promise that she will be able to protect her developments, there is no prospect that someone will provide financial backing for her risky research. As a result, plant breeding is paradigmatic of a field that needs to be spurred on (and has been spurred on, as evidenced by the investments made in plant breeding over the past decade) by patent protection. *See generally* Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, Book V, ch. 1, at 712 (Cannan ed. 1776).

Not only does the risk of a "free rider" create a problem for the plant breeder, it also creates a problem for agriculture at large. Where "germplasm" (the term for plant genetic material, like seeds) can be copied freely, all will rush to use what, at the time, appears to be the "best" germplasm. *See generally* Paul E. Schaafsma, *An Economic Overview of Patents*, J. Pat. & Trademark Off. Soc'y 241 (1997). Without some expectation of a return, no one will take the research risks that produce breakthrough science, and after a time, farmers will be left with a gene pool that consists of a number of minor improvements of the now-old "best" germplasm. Such a narrowing of the genetic base leaves all of the newly developed lines, which share most of the same genetics, open to any unforeseen problem with the "best" germplasm. And when that problem comes, the industry cannot quickly revert to the abandoned seeds of years past.

Preventing patents on sexually reproducing plants presents other practical problems. For exam-

ple, plant researchers are expanding beyond development of plants having good agronomic traits, such as high yield and disease resistance, to plants having nutritional benefits. This requires research over and above the traditional breeding described above, and continued investment in the area will depend greatly on the promise of a stable intellectual property system. Furthermore, the newest and smallest companies are the ones that need patents the most, so that they can provide a proprietary advantage to counter the economies of scale held by larger competitors.

The PVPA does not alone provide adequate protection for newly developed plants whose development meets the "nonobvious" standard for patentability. High-tech seeds are affordable to farmers because companies can expect to spread their revenues out over many years; if seed companies were forced to recover their investment through a single sale to each farmer, they would have to price the seed at a level no one could afford. Denying patent protection for seeds that have already been developed would be a great short-term boon for farmers, but it would deny farmers of any improved seeds for years to come, as companies abandon an industry in which profit has become a mere dream.

And the PVPA does not provide the public with all that Petitioners suppose, because it has no requirement that seeds be made available to the public. As a result, companies that sell hybrid corn can keep the inbred parents of a hybrid as trade secrets, thus denying the public of any benefit. If the inbred parents are patented, in contrast, they must be disclosed through a public deposit.

III. The Legislative History Shows Congress' Intent to Provide Full Patent Protection for Sexually Reproducing Plants

The legislative history of the three acts confirms that Congress' failure to add specific mention of sexually reproducing plants to section 101 reflects not an intent to prevent patenting of plants, but an unwillingness to carve out specific exemptions in the Patent Act to the technical requirements of section 112. Instead of modifying section 112, Congress provided that asexually reproducing plants, in a separate section of the Act, may be patented without complying with the disclosure requirements of section 112. It provided for the protection of sexually reproducing plants in another act. But it never foreclosed the opportunity to obtain a patent once technology advanced to a point that the technical hurdles to satisfying section 112 could be cleared, and it repeatedly showed its intent that plants be as protected as other inventions to the extent practicably possible.

Congress first expressed this intent when considering the Plant Patent Act. The Senate Committee Report stated:

> The purpose of the bill is to afford agriculture, so far as practicable, the same opportunity to participate in the benefits of the patent system as has been given industry, and thus assist in placing agriculture on a basis of economic equality with industry.

S. Rep. No. 71-315, at 1 (1930). Congress also recognized that, at the time, sexually-reproduced plants could not be patented because of technical, not legal,

issues: "[The patent right] does not include the right to propagate by seeds. This limitation in the right granted *recognizes a practical situation.*" *Id.* at 4 (emphasis added). The House Report likewise showed Congress' intent to provide protection for plants to the extent technically possible without relaxing the section 112 standards: "This bill is intended not only to correct such discrimination, but in doing so it is hoped the genius of young agriculturalists of America will be enlisted in a profitable work of invention and discovery of new plants that will revolutionize agriculture as inventions in steam, electricity, and chemistry have revolutionized those fields and advanced our civilization." H.R. Rep. No. 71-1129, at 2 (1930).

The ability to describe plants adequately for section 112 still had not developed by the time Congress considered the PVPA, as Congress expressly recognized:

> Under patent law, protection is *presently* limited to those varieties of plants which reproduce asexually, that is, by such methods as grafting or budding.

H.R. Rep. No. 91-1605, at 1 (1970) (emphasis added). Nowhere does the legislative history suggest an intention by Congress that the Patent Act *should not*, in the area of plants, cover new developments. Instead, it shows an intention that new developments should have all available protections.

IV. Any Prohibition Against Patenting Sexually Reproducing Plants Should Be Limited

For the reasons set forth above, *amicus* Cargill believes that the Patent Office and Federal Circuit are clearly correct in their conclusion that section 101 encompasses sexually reproducing plants. Should this Court nevertheless conclude that some certain plant subject matter is excluded from scope of section 101, Cargill urges the Court to proceed with caution in circumscribing the excluded subject matter.

A. The Scope Of Unpatentable Subject Matter Should Equal What Is Protected By the PVPA

As a starting point, the Court should hold that subject matter not covered by the PPA or PVPA, but which otherwise satisfies the requirements of the patent statute, should be permitted utility patent protection under section 101. Utility patent protection for such plant material would be entirely consistent with a PVPA or PPA-based exclusion of subject matter from section 101. To hold otherwise would create a gaping hole in the federal intellectual property protection for plants, excluding important innovations from federal protection and paving the way for copyists to appropriate the valuable inventions of others with impunity.

Cargill submits further that even if certain plant subject matter is held excluded from section 101, utility patent protection should remain permissible for transgenic and mutagenized plants. By definition, a transgenic plant contains genetic material intro-

duced through technical means and which confers a desirable trait, *e.g.*, insect resistance, that can be propagated to successive generations of the plant. Mutagenesis involves an intervention to alter the genetics of a plant, followed by selection of desirable altered genetics, *e.g.*, a desirable fat profile, that can then be propagated in the offspring of the selected plant. This subject matter is closely analogous with the man-made, genetically-engineered microorganism of *Chakrabarty*.

The drafters of the PPA and PVPA could not possibly have anticipated the development of transgenics in plants. These later-developed technologies have revolutionized agricultural biotechnology, and the variety-based protections afforded by the PPA and PVPA are wholly inadequate to protect this valuable technology, which has been developed through the commitment of vast amounts of industry time and resources. Whereas a PVPA certificate can only cover a single variety of a plant, even if genetically altered through transgenics or mutagenesis, a utility patent claim can cover all members of an entire species that harbor the man-made, desirable genetics. The scope of protection for such inventions provided by utility patents is appropriate to the level of innovation and the nature of the inventions embodied in transgenic and mutagenized plants. To deny such innovations the benefits of utility patent protection would certainly conflict with the Court's rejection in *Chakrabarty* of the notion that "unanticipated invention are without protection [in patent law]." 447 U.S. at 317. Such a denial of protection would also put at risk other investment and commitment to innovation that is essential for further development in this industry, at a time when these

very innovations loom so large in the future size and quality of the world's food supply.

Any decision of the Court resulting in the exclusion of plant subject matter from section 101 should thus, at a minimum: (1) explicitly preserve utility patent protection for plant material not covered by the PPA or PVPA; and (2) include transgenic and mutagenized plants within the scope of section 101.

B. Any Limitation on Patentability Should Apply Prospectively Only

Since the decision in *Hibberd* in 1985, plant breeders have obtained thousands of utility patents at enormous expense, and have structured their commercial dealings in reasonable reliance on a system that has allowed patenting of sexually reproducing plants. Therefore, this Court should apply any limit on utility patenting of plants prospectively only.

Three factors are relevant to the present analysis:

1. whether the holding decides an issue of first impression whose resolution was not clearly foreshadowed by earlier cases;
2. whether retrospective application would further or retard the holding; and
3. whether retrospective application could produce substantial inequitable results in individual cases.

See Chevron Oil Co. v. Huson, 404 U.S. 97, 106-07 (1971); *see also Northern Pipeline Co. v. Marathon Pipe Line Co.*, 458 U.S. 50, 87 (1982); *Allen v. State Bd. of Elections*, 393 U.S. 544, 571-72 (1969).

Under each of these three factors, retroactive application of a rule that would invalidate issued or pending patents would be wholly improper. First, this is truly a matter of first impression for this Court. Never before has the Court considered the interplay between the Patent Act and the PVPA. In addition, the closest case, *Chakrabarty*, made clear that the scope of subject matter that may be patented is expansive and includes living organisms.

Nor would the Court's holding be retarded by prospective application. In reliance on the existing state of the law, the holders of patents on sexually reproducing plants chose to forego the option of trade secret protection, and entered into the "patent bargain" by fully disclosing their inventions. Allowing them to receive the benefit of the bargain would in no way undercut the policies inherent in the Patent Act. Indeed, because of the enormous up-front research costs needed to develop new technologies, like the plants in this case, and the often distant recovery of those costs, it is essential that companies can continue to hold an expectation that the intellectual property laws in effect today will not change suddenly in the future.

Perhaps most important to this issue is the inequity that would fall upon holders of utility patents. In addition to the thousands of dollars in attorney fees and Patent Office fees required to obtain and maintain a patent, they have suffered the loss of trade secret protection that—because patent disclosure has already been made—can never be recovered. Thus, retroactive application of a narrowing interpretation of section 101 not only would deny patentees their patent rights, but would effectively

take away any ability to protect their innovations. Competitors will simply rush the public seed depositories to get the seed that the patentees were forced to deposit to get a patent in the first place, and will begin copying the seeds.

Furthermore, this is not a situation in which parties have proceeded unilaterally at their own risk, and have spent money pursuing an uncertain course of action. The vast majority of the thousands of extant patents were obtained in reliance on the Patent Office's policy of granting such patents and the 16-year-old decision in *Hibberd* approving of that policy. In addition to abandoning their rights to trade secret protection, many companies have established complex cross-licensing agreements. In such agreements, the company that offered up its utility patents will lose the benefit of its bargain, as its licensing partner seeks to exploit the technology for free and the patentee is left powerless to enforce the license. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558, 618-19 (Fed. Cir. 2000) (*en banc*) (Michel, J., dissenting) (noting that sudden, unexpected limitations on patent rights can unfairly prejudice licensors).

CONCLUSION

For the foregoing reasons, Cargill respectfully requests that the Court affirm the decision of the United States Court of Appeals for the Federal Circuit.

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